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Core vs. Core+ Indexing

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Both the Core Indexing approach and the Core+ Indexing approach add value to portfolios, but in different ways using different techniques. Together, the two approaches effectively serve the needs of investors with varying return goals and risk tolerances in their index mandates.

Index investing offers a wide range of benefits to investors, helping them to achieve their long-term risk and return objectives by providing broad market exposure in a diverse, transparent, and highly liquid way with low turnover and low expenses. The expansion of index portfolios in niche areas — smart beta, ESG, thematic investing — also allows investors access to more narrow exposures while preserving many of the benefits.

The changing and dynamic nature of markets, however, means that skillful index managers must continually evolve in both approach and implementation to strike the necessary balance between return, risk, and costs. An effective index portfolio manager aims for the most efficient balance between tracking error to the index and the portfolio trading costs needed to match the index.[1]

Value can be added by the index portfolio manager through every decision around index changes, corporate actions for the stocks in the index, and selection of trading venues such as the use of internal crossing pools. These techniques can augment performance either through improving return or reducing trading costs in a risk-controlled way. In this article, we explore the techniques that we use to generate value for our client portfolios. We distinguish between Core Indexing and Core+ Indexing, which have different aims and thus employ varying techniques. We provide examples of the types of techniques and highlight the research motivating our use of these techniques.

Core Indexing vs. Core+ Indexing: What Is the Difference?

Adding value in index portfolio management means exploiting micro-inefficiencies in the construction of indices or management of index portfolios. Over the 30+ years we have been managing equity index funds at State Street Global Advisors, we have seen these micro-inefficiencies play out in many ways over the years. Evolving index rules, changing market structures, and new market participants all impact these inefficiencies. The concept of adding value is embedded throughout our index investment process in a variety of ways — both through our conventional portfolio management process and through the use of more explicit value-add techniques, which we brand as Core+.

The main difference between Core and Core+ is the latter's objective to explicitly generate returns above the index. While this is done in a risk-controlled way, by necessity the tracking error on these types of portfolios is generally higher than conventional Core portfolios as the portfolio manager must be allowed to make more active decisions relative to the benchmark. Figure 1 highlights the key differences between the two approaches.

Figure 1
Core Indexing vs. Core+ Indexing

Core Indexing	Core+ Indexing
Leverages a set of risk aware, time-tested core indexing techniques to minimize cost and preserve wealth	Incorporates added techniques with the objective of potentially generating returns above the index
Incorporates global best practices and is generally applicable to all clients and portfolios	Applicable to investors who are comfortable with potentially higher tracking error and off-benchmark investments

Source: State Street Global Advisors analysis.

Core Indexing: Our Universal Approach to Managing Index Portfolios

Core Indexing mostly encompasses portfolios tracking market-capitalization-weighted indices, which in the absence of any changes, are essentially self-rebalancing. However, all indices are regularly rebalanced (reconstituted) with a number of securities being added and deleted and weight/share changes occurring in the remaining securities. In addition, corporate actions and index events in between rebalance dates are common occurrences. It is the management of these changes (additions, deletions, free float changes, new share issues, corporate actions, and reinvestment of dividend income, to name a few) that provide an opportunity for us to exercise our indexing expertise and add value through portfolio management.

While Core+ focuses on return enhancement, the essence of Core Indexing techniques is cost minimization and wealth preservation, which we utilize across all our index portfolios. The ways we add value are both at the portfolio level and security level (as shown in Figure 2) but the focus across all cases is to preserve wealth and to minimize costs while balancing tracking error of the portfolio relative to the index that we are tracking. Portfolio level techniques include index rebalances/changes, transaction cost mitigation strategies, cash equitization and dividend reinvestment. At the security level, we pay attention to corporate actions such as spin-offs, buybacks, etc. as well as scrip dividends, placings and book builds. Participant-related flows also allow us an opportunity to add value with a focus on minimizing costs.

Figure 2
Ways We Add Value in Core Indexing

Portfolio Considerations →
- Index Rebalances/Changes
- Transaction Cost Mitigation Strategies
- Cash Equitization/Dividend Reinvestment

Company Specific Considerations →
- Scrip Dividends
- Corporate Actions
- Placings/Book Builds

Source: State Street Global Advisors analysis.
Index Rebalance/Changes Globally coordinated effort to minimize the impact of index rebalances and add value when possible (Part of GOT)

Transaction Cost Mitigation Strategies Partner with trading to determine cost-efficient trading strategies and/or leverage internal crossing capabilities

Cash Equitization and Div Reinvestment Use futures to minimize cash drag and ensure a portfolio remains as fully exposed as possible

Scrip Dividends Adding value when the scrip dividend price is lower than the current market price of a stock

Corp Actions Pursuing an alternative corporate action implementation relative to the index provide

Placings/Book Builds Attempting to acquire a stock at a discount and avoid some explicit trading costs

By far, the most significant changes in index portfolios stem from index reconstitutions or rebalances, when the index constituents change according to the pre-determined index rules set by the index vendors. These occur periodically throughout the year and are different from one index to another. It is worthwhile to note that in the 1980s and 1990s, researchers observed an "index effect" whereby securities being added to major indices would get a meaningful lift as index managers would need to buy those securities and securities being deleted from major indices would experience a price decline. Since then, the index effect has weakened, particularly for major large cap developed market indices such as the S&P 500, Russell 1000, and MSCI World Indices, as more market participants have become aware of this opportunity. For many of the major indices, the index effect is arbitraged away almost as soon as the index vendors announce the changes, and many times even earlier than that. (We also observe a significant rise in the traded volumes of these securities ahead of the implementation date, which is consistent with this trend).

That said, there are still segments of the global equity universe where the index effect is still prominent. In a paper we recently wrote, "The Past, Present, and Future of the Index Effect" (Journal of Index Investing, 2019), we found that the excess return (adjusted for index return) between the announcement dates and rebalancing (effective) dates for the MSCI Emerging Markets and Russell 2000 Index remained meaningful even in recent years. As shown in Figure 3, over the period January 2010 to December 2018, there was the opportunity to earn 14 bps and 9 bps, respectively, from trading the additions and deletions on the announcement date and holding the securities until the index rebalance date.

Figure 3
Empirical Results on the Index Effect
January 2010 to December 2018

Index Analyzed	Average Value Add Opportunity (Cumulative Annual Excess Return between Announcement and Index Rebalance Date in bps)
S&P 500	-0.3
Russell 1000	1.0
MSCI USA	2.0
MSCI World	2.0
MSCI Emerging Markets	14.0
MSCI World Small Cap	2.0
Russell 2000	9.0
FTSE All World Developed Index	0.2

Source: The Past, Present, and Future of the Index Effect. Journal of Index Investing, 2019. J. Bender, R. Nagori, and M. Tank.

In practice today, during rebalances or reconstitutions, portfolio managers with input from trading and research, determine what implementation techniques or strategies should be utilized for which indices. Analysis of recent rebalances and broker research are also utilized. These inputs help inform the portfolio managers so they can achieve the best balance between index turnover, tracking error, and cost of trading in the context of each client portfolio's stated objective.

As we have seen, not all index changes encounter the same market dynamics or supply-demand considerations. Our research and analysis of trading patterns and liquidity cover all major index providers, and separately consider size, region, type of index change (add/delete/free float or shares-in-issue). This enables nuancing in terms of how and when we trade. To best organize these efforts, we employ a framework around index rebalances called Global Organized Trading (GOT), which encompasses a series of global trading strategies that portfolio managers can follow. The GOT framework is dynamic and customized around each index event and will accommodate different exposures, portfolio sizes, and risk tolerances.[2]

The factors that are taken into consideration when defining these trading strategies include, but are not limited to:

- The estimated relative volume expected to be traded for stock(s) involved in an index change event, as well as trading volume leading up to the event indicating what portion of the trade may have already been satisfied
- External factors such as shelf registrations and strategic owners looking to sell
- Derivatives markets to gain insight on short index holders who look to trade in the opposite direction from traditional index funds
- The macro environment including market volatility, economic releases, sector specific issues or company related news
- Internal liquidity to minimize the impact of trading in the open market
- Trends in past index changes and rebalances
- Local market restrictions, such as bans on shorting, that may reduce market liquidity around index events

Lastly, we see our size and ability to internally cross as an important benefit to our clients and we go to great lengths to ensure that all possible opportunities are exhausted through crossing, where we're able to avoid costs like broker fees, spreads, market impact, and local and international taxes (in some cases). Additionally, portfolio managers monitor portfolio turnover not only for the negative impact on performance of transaction costs, but also because a higher turnover has an impact on the administration and custody costs for that particular account.

Case Study: Corporate Action Example

Last summer, a large European company (Company X) acquired a certain percentage of a foreign listing (Company Y) by way of a share exchange. This resulted in a decrease in the acquired company's shares in the MSCI Emerging Market Indexes and an increase in the acquiring company's shares across MSCI World & Europe Indexes. Implementation options related to the event were to 'tender or 'take no action.' (TNA).

Our approach was threefold: We elected a 100% tender for all broad-based MSCI ACWI and ACWI ex US Index strategies. For more concentrated emerging market strategies we elected a 75% tender due to the relatively higher weight of the position and because Company X required selling post-election day. Company Y was also in high demand due to special interest from securities lending operations. In instances where we 'took no action' on a portion of the shares, additional value-add was generated from these lending opportunities.

Our actions generated the following positive results:

- Global Equity Beta Solutions sell demand was able to satisfy three-quarters of the buy side trade of Company X via internal liquidity sources, generating cost savings to clients.

- Post expiry through index implementation date, the spread of Company X vs. Company Y significantly widened, resulting in over 11 bps of total savings (~8bps in MSCI Emerging Markets; ~2.5 bps in MSCI ACWI ex US; ~1 bp in MSCI ACWI), or value-add from the corporate action.

Source: State Street Global Advisors, Bloomberg. For illustrative purposes only. This information should not be considered a recommendation to invest in a particular sector or to buy or sell any security shown.

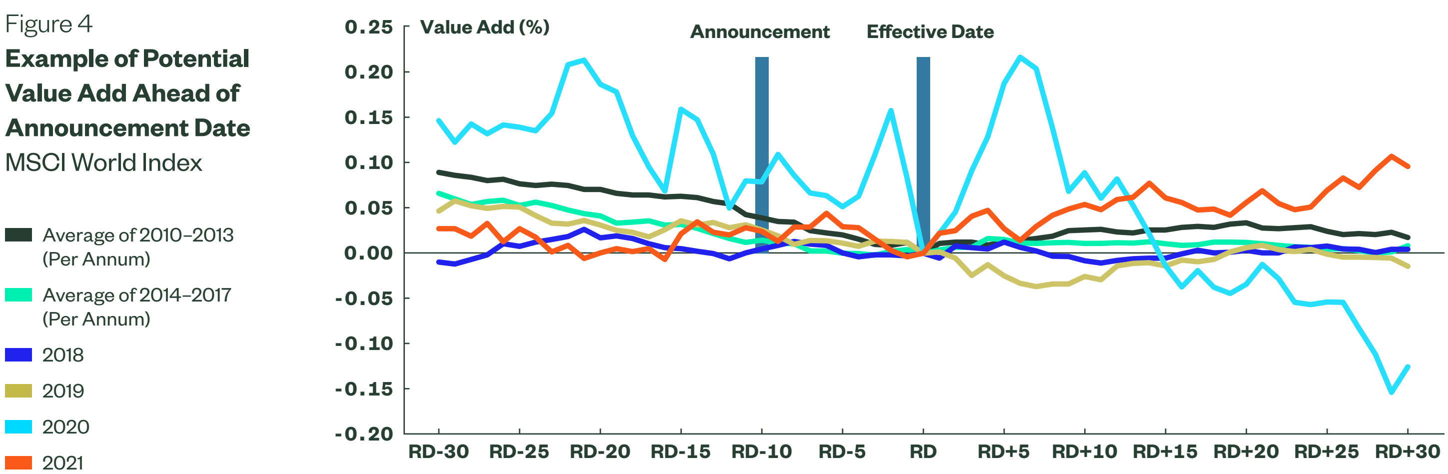
Core+ Indexing: Boosting Portfolio Return Through Enhanced Techniques

We now turn to Core+ Indexing, which consists of return enhancement techniques that seek to generate additional return, aka be a source of "value-add" in a portfolio (not to be confused with our earlier notion of "adding value" across all portfolios we manage). These techniques include predicting which securities will be added and deleted to indices ahead of when they are actually announced, predicting which recent IPOs will be added to indices, and taking advantage of arbitrage opportunities such as pairs trading of different share classes.[3]

Predicting Index Events to Maximize Value

Our research has shown that the potential value-add from the index effect is higher where one can accurately predict and trade index changes ahead of the announcement. This is true even for indices/universes where the index effect between announcement and rebalance date has weakened in the last decade. Figure 4 shows the potential value add around the MSCI World Index reconstitution. It is clear that more opportunity exists in pre-announcement trading where the potential value add has been at times twice that of the value add after the announcement date.

Figure 4
Example of Potential Value Add Ahead of Announcement Date
MSCI World Index



Source: MSCI, State Street Global Advisors analysis, as of December 31, 2021.

Looking at other indices, Figure 5, similar to Figure 3, shows the potential excess return from buying additions and selling deletions 30 days ahead of the rebalance date historically over the January 2010 to December 2021 period. (Thirty days is selected as a reasonable window which is far enough ahead of all the major MSCI, FTSE, and S&P index announcement windows.) The potential for value-add is higher for all the indices, with the exception of the MSCI World Small Cap, and in some cases considerably more (e.g. the MSCI Emerging Markets opportunity set is 40 bps compared to 14 bps in Figure 3).

Figure 5
Empirical Results on the Index Effect Ahead of Announcement Date
January 2010 to December 2021

Index Analyzed	Average Value Add Opportunity (Cumulative Annual Excess Return between t-30 and Index Rebalance Date in bps) (2010–2021)
S&P 500	11.0
Russell 1000	6.5
MSCI USA	6.0
MSCI World	6.8
MSCI Emerging Markets	48.9
MSCI World Small Cap	-21.6
Russell 2000	50.2
FTSE All World Developed Index	3.9

Source: State Street Global Advisors analysis, as of December 31, 2021.

We use our own analytics and integrate multiple prediction sources to determine a high-conviction population of likely candidates to be added or deleted in a given index rebalance. From there, we analyze liquidity demand and define our trading strategy. Our approach will also incorporate risk constraints around trade sizes and potential impact in ex-ante tracking error, creating a robust risk-aware trading strategy. After the strategy is initially implemented, the performance is continually monitored through the rebalance date to ensure risks and any possible negative effects are minimized. At the same time, we may take the opportunity to lock-in any outsized profits if prediction trading has moved in our favor.

Techniques Around Corporate Events and Arbitrage Opportunities

At the company or security level, there are a multitude of so-called “corporate events” each year. These include Mergers & Acquisitions, Corporate Actions (e.g., Splits, Reverse Splits, Capital Repayments, Special Cash Dividends, Rights Issues, Redemptions, and more) as well as other events resulting in changes in the number of shares (e.g. Share placements and offerings, Debt-to-Equity swaps, etc.) and Suspensions, Bankruptcies, and Delistings. We approach these corporate events opportunistically in our Core+ trading program. (In our Core Indexing approach, depending on the size and impact of these corporate events, we may use our Global Organized Trading framework to assess them.)

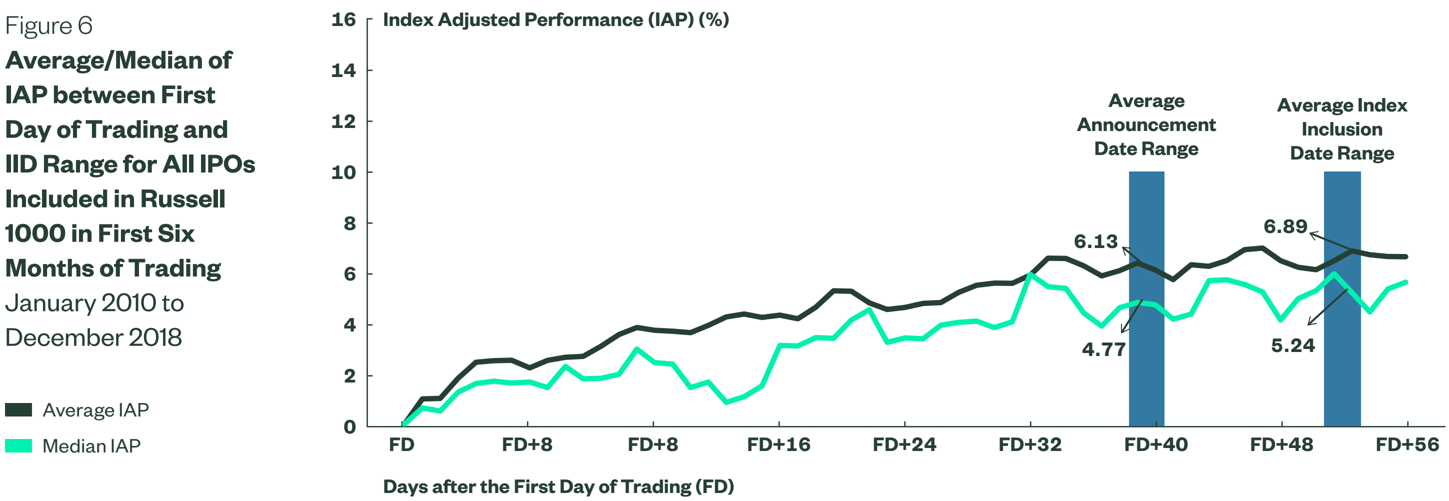
Separately, there may be arbitrage opportunities that we leverage, for instance pairs trading. This includes a range of trading techniques that seeks to harvest price dislocations between two stocks that have a common driver. This will usually take the form of a trade where we would take a small underweight in one stock and a corresponding overweight in the other, while maintaining an index neutral position and strict risk controls. The pairs can be:

- Event driven, such as ad-hoc index changes (cross border restructures, spin-offs) or M&A arbitrage (also called “Early Bird”);
- Technical pairs, such as different lines of stock from the same issuer (American depositary receipt (ADR)/global depositary receipt (GDR) vs parent line; Asymmetric voting lines of the same company).

In addition to the above, and where clients have given us permission to do so, bookbuilds and placings can be also approached more dynamically in order to capture additional value. This is a contrast to more traditional indexing mandates.

Initial Public Offerings (IPOs) are an example of where our research has shown there can be excess return opportunity around a corporate event. In a paper we co-authored with Robert Pozen, "Proactive Indexing: Index Funds and IPOs" (Journal of Index Investing, 2020), we analyzed U.S. listed IPOs between 2010 and 2018 which were added to the Russell 1000 and the Russell 2000 indices and concluded that index funds could have generated excess returns by buying IPOs prior to their inclusion in indices. Figure 6 shows the average index-adjusted performance (IAP) between the first day of trading (FD) and the index inclusion date (IID) for all IPOs included in the Russell 1000 in the first six months of trading. If one can predict which IPOs will be added to the Russell 1000 Index, additional return gains are meaningful. We further find that the potential for excess returns differs depending on the index, the timing of the purchase, the relative size (market capitalization) of the IPO and its sector.

Figure 6
Average/Median of IAP between First Day of Trading and IID Range for All IPOs Included in Russell 1000 in First Six Months of Trading
January 2010 to December 2018



Source: Proactive Indexing: Index Funds and IPOs. Journal of Index Investing, 2020. J. Bender, R. Pozen, and M. Tank, as of December 31, 2018.

To harvest the potential excess returns associated with IPOs, we utilize a risk-controlled framework which motivates the timing and sizing of our IPO trades prior to their inclusion in select indices. We forecast the expected security weight in the index on the IPO debut and set a range of early purchases based on historical data. Index inclusion ultimately hinges expected index weight of the security and the performance of the security during the first few weeks or months. Thus, the larger in size the IPO security is relative to the index, the higher the likelihood that the IPO will be added to the index.

Conclusion

In this piece, we have explained the difference between two approaches — Core and Core+ — that we use to manage index portfolios. In both cases, our aim is to “add value” for our clients but in two very different ways and two very different objectives. The Core Indexing approach, which we use across all portfolios we manage, leverages techniques such as transaction cost mitigation strategies, scrip dividends, and expertise around trading corporate actions. The goal for this approach is to minimize cost and preserve wealth. The Core+ approach has an explicit goal of potentially generating returns above the index and employs techniques such as predicting index changes, pairs trading, and IPO predictions. By necessity, the tracking error on portfolios that use the Core+ approach is generally higher as the portfolio manager must be allowed to make more active decisions relative to the benchmark. We offer these two approaches as investors may have different goals and risk tolerances in their index mandates. Ultimately, index investing has become a foundational way that investors today seek to achieve their long-term risk and return objectives. As such, index managers can help end investors by offering a growing range of objectives and outcomes.

Endnotes

1 For a discussion around the benefits of indexing and recent trends, please see “Why Do You Believe That Indexing Works?” July 2021, SSGA Insight by Karl Schneider, Heather Apperson, and Nate Earle.

2 Of the $245B traded from 2016 to 2020 via GOT during the MSCI, FTSE, and S&P rebalances, our trading strategies delivered a gain of over $43M vs the event date close equating to +1.8bps.

3 We began our index predictions model in 2018 and our IPO research in 2019. The IPO research we have done has mostly focused on the US indices but we are in the process of expanding these to global indices. Regarding pairs trading, our approach is more opportunistic, and has been implemented for several years.

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